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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/982,788

10/22/2001

Satoshi Kondo

2001-1571A

8393

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09/07/2004

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EXAMINER

LEE, RICHARD J

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 09/07/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/982,788

Applicant(s)

KONDO ET AL.

Examiner

Richard Lee

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-47 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claim 1, drawn to a block distortion removal method comprising correcting the pixel values of pixels in the vicinity of the block boundary, according to the values of the first and second differences, classified in class 375, subclass 240.27.
 - II. Claims 2, 10-13, and 22-24, drawn to a block distortion detection method and apparatus comprising deciding that a stronger block distortion occurs at the block boundary as the first and second threshold values are smaller, classified in class 375, subclass 240.24.
 - III. Claims 3, 4, 27, 36, and 37, drawn to a block distortion detection method comprising deciding that a block distortion occurs at the boundary when the absolute value of the first difference is larger than a first threshold value while the absolute value of the second difference is smaller than a second threshold value, and the amount of motion in motion compensation units across the boundary of blocks/motion compensation units is larger than a third threshold value, and deciding that a strong block distortion occurs at the boundary when the first and second threshold values are small, and the amount of motion units across the boundary of blocks/motion compensation units is large, classified in class 375, subclass 240.12.
 - IV. Claims 5-9, 25, 26, 28, 29, 38-41, drawn to a block distortion method comprising performing detection of block distortion at the block boundary using the values of the first and second differences, by a detection method in which the volume of

processing decreases as the resolution of the decoded image signal becomes larger, classified in class 375, subclass 240.01.

- V. Claims 14-21, 30-35, and 42-47, drawn to a block distortion detection apparatus, comprising extracting a motion vector which is used for the motion compensation at the decoding, a resolution decision unit for deciding, among a plurality of predetermined ranges, a range where the resolution of the decoded image signal belongs, and a block distortion decision unit for finally deciding whether block distortion occurs or not, on the basis of the results of detection of block distortion by the pixel value inspector and the motion vector inspector, classified in class 375, subclass 240.16.

2. The inventions are distinct, each from the other because:

Inventions Groups I, II, III, IV, and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are Groups I, II, III, IV, and V. Group I involves a block distortion removal method comprising correcting the pixel values of pixels in the vicinity of the block boundary, according to the values of the first and second differences. Group II involves a block distortion detection method and apparatus comprising deciding that a stronger block distortion occurs at the block boundary as the first and second threshold values are smaller. Group III involves a block distortion detection method comprising deciding that a block distortion occurs at the boundary when the absolute value of the first difference is larger than a first threshold value while the absolute value of the second difference is smaller than a second

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threshold value, and the amount of motion in motion compensation units across the boundary of blocks/motion compensation units is larger than a third threshold value, and deciding that a strong block distortion occurs at the boundary when the first and second threshold values are small, and the amount of motion units across the boundary of blocks/motion compensation units is large. Group IV involves a block distortion method comprising performing detection of block distortion at the block boundary using the values of the first and second differences, by a detection method in which the volume of processing decreases as the resolution of the decoded image signal becomes larger. Group V involves a block distortion detection apparatus, comprising extracting a motion vector which is used for the motion compensation at the decoding, a resolution decision unit for deciding, among a plurality of predetermined ranges, a range where the resolution of the decoded image signal belongs, and a block distortion decision unit for finally deciding whether block distortion occurs or not, on the basis of the results of detection of block distortion by the pixel value inspector and the motion vector inspector. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Groups II, III, IV, and V, restriction for examination purposes as indicated is proper.

4. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

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5. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)


(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group customer service whose telephone number is (703) 306-0377.


RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl 

9/1/04